

A PSYCHIC DISTANCE INDEX

Author: Paul Brewer

Affiliation: University of Queensland Business School

St Lucia 4072

Brisbane

Australia

Email: p.brewer@business.uq.edu.au

Phone: 61 7 33657145

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ABSTRACT

Psychic distance, as described in the Uppsala internationalisation model, is based on the impediments to information flows between country market and firm. The greater the impediments, the longer the distance. The operationalisation of psychic distance in empirical investigation is most commonly accomplished through estimation of perceived “differences” between countries, as it is argued differences account for impediments to knowledge flows. However this process is highly flawed. This paper responds to many calls for an improvement to psychic distance understanding and operationalisation. It does so by holding to the original definition but taking into account wider measures than the differences between the firm’s home country and the target country. Fifteen variables are identified from the literature and the relationships between them and psychic distance are proposed. An index measuring psychic distance is constructed using these variables. The index is then applied to measure distances between twenty five country combinations. The results are then compared with actual exporter behaviour. There is a close negative correlation between the psychic distance index and the actual selection of export markets by firms in the study.

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INTRODUCTION

The importance of knowledge in the firm internationalisation process has been well documented over many years (Carlson, 1974; Liesch & Knight, 1999; Reid, 1984a; Vernon, 1966). An application of the importance of knowledge in international business can be found in the development of the concept of psychic distance. Psychic distance was defined by the Uppsala internationalisation school as “the sum of factors preventing or disturbing the flows of information between firm and markets” (Johanson & Wiedersheim-Paul, 1975, p.308) and has been widely cited in the international business literature as a predictor of international market selection (IMS). The connection between psychic distance and knowledge is that a firm’s managers will tend towards those country markets that they can get to know most easily and they will avoid those it is difficult to get to know, at least early on in the firm’s internationalisation process.

Closer inspection of the psychic distance concept and, in particular, closer inspection of its operationalisation, opens up some serious questions over how the concept has been incorporated into research over recent years. Much, if not all, recent psychic distance research is based on measurements of perceived differences between home countries and target market countries (Andersen & Buvik, 2002). Whilst, intuitively, differences should affect the flow of information between country and firm, there would appear to be many other factors that might also play an important part.

This paper provides a much broader proposal for the operationalisation of psychic distance than differences. The paper begins with a review of the definitions of, and the attempts

to operationalise, psychic distance in the international business literature so far. It points out that the practical meaning of the Uppsala definition is quite different to the meaning commonly attributed to it by more recent researchers. An expanded notion of psychic distance operationalisation is explored and a number of important psychic distance elements are suggested. An index utilising these elements which measures psychic distance is developed. The index is then applied to Australia and twenty five other countries. To gauge its usefulness the resulting psychic distance values are compared with actual market selection by Australian exporters. The results support the proposed psychic distance index as a predictor of IMS outcomes and in fact psychic distance, as comprehensively measured by the proposed index, is strongly negatively correlated to export market selection outcomes. The article concludes with some suggestions for further exploration of the issues raised.

PSYCHIC DISTANCE BACKGROUND

The concept

Psychic distance is a concept which has been widely accepted and cited in international business research since it appeared in some ground breaking work at the Uppsala University on the internationalisation process of the firm (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). The notion of psychic distance (Johanson & Wiedersheim-Paul, 1975) is built upon the idea that for any manager knowledge is easier to glean from certain countries than from others. This should make certain countries more easily assessable for managers and therefore more likely to be selected, *ceterus paribus*. The Uppsala internationalisation model argued that firms tended to select overseas markets in accordance with their psychic distance from the home country. A lower psychic distance meant a country was more likely to be selected and vice versa.

Thus, psychic distance is a significant deterrent to market entry, at least in the initial stages of a company's international business development, and particularly in the case of small and medium sized firms (Cicic, et al., 1999). It is further argued that as a firm becomes more internationally active the influence of psychic distance on its market selection decisions is reduced (Benito & Gripsrud, 1992). This part of the internationalisation process has been concisely summarised as "firms would first enter the foreign market about which they were most *familiar* ... and then move on to less *familiar* territories" (Dunning, 2003, p.40, italics added). This idea of familiarity, of course, is totally consistent with the original definition and description of psychic distance as depending on information flows.

The intuitive, logical appeal and simplicity of psychic distance encouraged researchers to look more closely at its implications. As is so often the case with appealing theoretical concepts, the operationalisation of psychic distance has proved much more troublesome than the definition. Attempts to test its validity empirically have resulted in various new definitions including "difference in perceptions between buyer and seller regarding either needs or offers" (Hallen & Wiedersheim-Paul, 1984, p.17) and "factors preventing or disturbing firms' learning about and understanding a foreign environment" (Nordstrom & Vahlne, 1994, p.42) and "a firm's degree of uncertainty about a foreign market resulting from cultural differences and other difficulties that present barriers to learning about the market and operating there" (O'Grady & Lane, 1996, p.330). In an attempt to more easily measure the knowledge flow between firm and markets, it is widely postulated that psychic distance depends on perceived *differences* between the firm's home environment and that of the foreign country market(s). The greater the perceived differences the less likely it is that a country will be selected. As a consequence, firms initially select markets which are perceived to be similar and they will later move on to countries which are perceived to be dissimilar (Chetty & Campbell-Hunt, 2004; Davidson, 1980; Erramilli & Rao,

1990; Petersen & Pedersen, 1996; Stottinger & Schlegelmilch, 1998). This allows research to be conducted on psychic distance through the measurement of differences as a surrogate for information flows, but only after firm familiarity with a country market was replaced with perceived similarity between countries. Remarkably, the author is unable to identify any research supporting the proposition that a notion of collective differences is a surrogate for familiarity. Just as remarkable is the tendency by researchers to equate differences between countries with cultural differences (or cultural distance) (eg. Conway & Swift, 2000; Fletcher & Bohn, 1998; Kogut & Singh, 1988).

The central importance of national “differences”.

Where business and other conditions are the same in two countries ease of understanding should be enhanced. So it is argued that the differences between the two countries are what drive perceptions and information flows. It is on this understanding that the “differences” rationale has emerged in recent research: psychic distance equates to differences between countries. As Evans and Mavondo (2002) write: “Most research on psychic distance asks respondents how similar or different a foreign country is to their home country in regard to certain environmental factors.” (p.517). A review of recent research activities highlights the importance placed on differences between home countries and the characteristics of potential markets as representing psychic distance, or indeed as being synonymous with the concept. Table 1 below sets out the most recent published work on psychic distance in international business research. The citations in Table 1 demonstrate the central role that national differences have played.

Table 1: Recent psychic distance research

Authors	Research objective	Psychic distance conceptualisation	Psychic distance operationalisation	Research results
Chetty and Campbell-Hunt (2004) JIM	To examine the differences between traditional and born global internationalisation processes	Differences from the home country in terms of language, culture, political system, business practice, industrial development and education systems.	Qualitative case studies, psychic distance measures are assumed, eg New Zealand, UK, USA, Australia are close.	Psychic distance theory applies to born global firms
Pedersen and Petersen (2004) JIM	To test the changes in perceived market familiarity by firms over time	The extent to which the particular market of the foreign operation differs from existing, well known markets	Survey of 485 managers of companies in Denmark, Sweden and New Zealand.	Supports the existence of psychic distance paradox.
Hassel and Cunningham (2004) JIAR	To investigate the impact of psychic distance on management control of MNE's	A combination of geographic distance and cultural differences	Adaptation of Nordstrom (1991) measures which were based on a survey of 100 Swedish managers.	Greater psychic distance generates greater budgetary control in MNE's
Evans & Mavondo (2002) JIBS	Investigate the relationship between psychic distance and organizational performance in the retail industry	The distance between the home market and a foreign market, resulting from the perception of both cultural and business differences	Survey of 103 managers in non-food retailers in US, EU and Asia/Pacific.	Supports the existence of a psychic distance paradox. Performance and psychic distance are inversely related.
Child, Ng and Wong (2002) ISMO	Re-examine the concept of psychic distance using Hong Kong based case studies	Differences in languages, culture, political systems, level of education and level of development	Perceptions of managers in 5 Hong Kong based firm case studies.	Supports the role of psychic distance in FDI but suggest that national culture has been over-emphasized as a determinant.
Kim and Rhee (2001) IJM	Investigate the link between psychic distance and FDI decisions	The degree to which a firm is uncertain about a foreign market resulting from cultural differences that present barriers to learning about the market	Survey of perceptions of Korea from managers in 25 Japanese firms, 36 American firms and 74 continental European firms.	The greater the cultural (psychic) distance the greater the probability the firm will select FDI entry mode
Evans, Treadgold and Mavondo (2000b) IMR	Explain the variations in the performance of international retail operations	The distance between the home market and a foreign market, resulting from the perception of both cultural and business differences	Conceptual paper.	Identifies a number of factors including psychic distance are associated with performance.
Stottinger & Schlegelmilch (2000) IMR	Empirical testing of the effect of psychic distance on exporter behaviour	The perceived foreignness of international markets, cultural proximity	Interviews/questionnaires with 104 US managers to determine perceptions.	Questions the empirical usefulness of the psychic distance concept.

Evans, Treadgold and Mavondo (2000a) IMR	Operationalisation of psychic distance	Measure the distance between home and the foreign market resulting from the perception of cultural and business differences	Conceptual paper.	Argues for the inclusion of managers' perceptions as well as actual differences
Conway and Swift (2000) EJM	Examine the role of psychic distance in relationship marketing	The extent to which the norms and values of the two companies differ because of their separate national identities	Conceptual paper.	The higher the level of psychic distance the greater the effort required in relationship marketing
Dow (2000) JIM	Psychic distance as a predictor of IMS	Communication difficulties encountered ... in foreign markets ... arising from large geographic distances, time zone differences , or differences in language, culture, laws and business practices	Perceptions of an expert panel of 10 Australian Trade Commissioners.	Psychic distance is a highly significant predictor of early IMS.
Swift (1999) IMR	That cultural closeness is an indirect determinant of psychic closeness	A combination of cultural distance, plus mistrust plus social distance	Questionnaire survey of perceptions of 276 managers in England.	Countries which engender the greatest level of psychic distance are those that are culturally most different
Lee (1998a) JGM	Modelling cultural distance in relationships between exporters and importers	Difference between home country and the target country in terms of language, business practices, legal and political systems and marketing infrastructure.	105 Australian exporters' perceptions of Korea measured by questionnaire.	Psychic (cultural) distance affects opportunism positively and exporting performance negatively.
Fletcher & Bohn (1998) IBR	To improve understanding of the firm's internationalisation process	Cultural distance (cultural differences) is used as a proxy for psychic distance	Adaptation of Kogut and Singh (1988) formula which was based on Hofstede's survey results.	Psychic distance is an important factor impacting on a firm's involvement in international markets.
O'Grady and Lane (1996) JIBS	To examine firm performance against psychic distance	A firm's degree of uncertainty about a foreign market resulting from cultural differences and other business difficulties	Questionnaire on perceptions on cultural differences from 180 managers in Canada and 91 managers in the USA.	A paradox emerges, psychic distance is inversely related to performance

Of particular importance to psychic distance research has been the measurement of *cultural* differences. For example, ten of the research articles listed in Table 1 specifically include cultural differences (or cultural distance) in their conceptualisation and operationalisation. Indeed, it is not unusual for researchers to use cultural distance and psychic distance interchangeably (see for example Klein & Roth, 1990; Lee, 1998b). It is, of course, logical to conclude that culture may play a part in international business operations and much international business research has focused on cultural aspects. However it is not demonstrated that culture is the central, or even the most important, element of psychic distance. Indeed significant research questions the role of culture in international market selection (Benito & Gripsrud, 1992; Child, et al., 2002; Mitra & Golder, 2002; Sullivan & Bauerschmidt, 1990) and on other business practices (Gomez-Mejia & Palich, 1997; Moss Kanter & Corn, 1994; Pressey & Selassie, 2002). Shenkar (2001) demonstrates the difficulty inherent in applying cultural distance as an influencing factor on the direction, performance and entry mode of international business. Yet the concept is so embedded in international business research that it continues to be used in an overly simplistic manner.

Improving the state of play

Building on the proposition that psychic distance, as originally defined by Johanson and Wiedersheim-Paul (1975) is best conceptualised as the inverse of the availability of market information, an operationalisation of psychic distance for the purposes of further research ideally should measure the ease or otherwise of such information flows. There seems little justification for concluding that such information flows can be adequately measured directly through country, cultural and/or business differences between countries, as assumed by most recently published

researchers (see Table 1). This is the central issue of this paper. There is no empirical support for the leap from recognising that differences impact knowledge flows to using differences as a sole surrogate for barriers to information flows. Operationalisation would be better based more broadly on the level of familiarity between firm and country market. Indeed, “familiarity” is a common psychic distance term in the literature (Bell, 1995; Dunning, 2003; Pedersen & Petersen, 2004). That is, the more familiar the firm’s managers are with a market the more likely it is to be considered for entry (but of course selected only if assessed as suitable). Further, the more easily managers can become familiar with country markets through gaining additional information about them, the closer the psychic distance (hence the original definition).

Concerns over the operationalisation of psychic distance have resulted in many calls for further work on the concept. Stottinger and Schlegelmilch (1998) suggest “a more qualitative approach to capturing psychic distance may represent a way forward” and “should it be possible to improve the measurement of the concept, it could be an important predictor of export behaviour” (p.368). Evans, Treadgold and Mavondo (2000a) endorse that conclusion. In spite of their support for the psychic distance concept, Petersen and Pedersen (1996) conclude that “twenty years after the emergence of the Uppsala internationalisation model, many empirical studies and a lot of theoretical development still remain to be done” (p.132). Dow (2000) in accepting the limitations of his work, echoes the original authors Vahlne and Weidersheim-Paul (1977) in their call for more research on the “formulation and measurement of psychic distance” (p.13). Ellis (2000) found, inter-alia, that there is little support for the psychic distance role in the early IMS activities of a group of Hong Kong toy makers and states: “there is a need for further foreign market expansion research which is based on in-depth interviews” to promote theory-building (p.463). O’Grady and Lane’s (1996) discovery of a psychic distance paradox leads them to suggest that “the psychic distance concept is more complex than is generally recognised in the

literature and should be explored more fully” (p.311). Fletcher and Bohn (1998) state: “Further research is necessary to develop a measure of psychic distance that embraces aspects ... additional to culture” (p.64).

Whilst researchers agree a more meaningful understanding of psychic distance than “perceived differences” between countries is needed no one has yet suggested a more appropriate means of operationalisation. The next section of this paper is intended to meet that challenge through the development of a psychic distance index based on a range of formative indicators affecting the ease of information flows between countries. It is important to note that the proposed index is not claimed to be the best operationalisation, but rather a better one than measurement of perceived differences as reported by expert panels or surveys based on traditional cultural dimensions.

A PSYCHIC DISTANCE INDEX

As described in Table 1, a variety of methods have been used in the literature to date to operationalise psychic distance. This paper proposes a more comprehensive and meaningful vehicle: construction and application of an index. An index is considered the appropriate vehicle for operationalisation, rather than a scale, because it builds on the items directly responsible for the ease of information flows between country and firm. Measuring a concept through formative indicators is best accomplished through index construction (Diamantopoulos & Winklhofer, 2001).

The index elements

Many factors in a firm’s home country will have an effect on psychic distance between that country and any other. Likewise the conditions existing in a potential market country will affect

its psychic distance from foreign firms. It seems clear that national conditions or circumstances should be considered in as wide a manner as practicable and some important variables are proposed in the following paragraphs. They are derived from extant literature on international market selection and other international business theories, intuitive sense and the experiences of the author based on many years of working with international business managers and living in foreign countries. They are listed below individually and together in Table 2. Each psychic distance indicator has a proposition concerning its importance and one or more measures which allow quantitative incorporation of the indicator into the psychic distance index. Where necessary for clarity, the firm's country is referred to as "Home" and the potential market country as "Away".

Proposition 1, Commercial Ties: Existing commercial exchanges (or connections) between countries should be expected to have an effect on the level of knowledge of those countries amongst their respective firms (Wiedersheim-Paul, 1972; Wiedersheim-Paul & Welch, 1975). That is, a strong commercial relationship between two countries will encourage stronger information flows between those countries (Carlson, 1974). The commercial relationship of course will include imports and exports of both goods and services. The relationship will also be strengthened by foreign direct investment flows between countries.

Measure 1: The proportion of Home's total exports sold to Away plus the proportion of Home's total imports bought from Away.

Measure 2: The stock of Home's FDI in Away as a proportion of Home's total outward FDI plus Away's stock of FDI in Home as a proportion of Home's total FDI stock.

Proposition 2, Political Ties: Close political relationships between countries can be expected to shorten psychic distance. Such relationships may, in turn, be dependent on and may be reflected in trade agreements, defence treaties, the level of diplomatic exchange and aid

programs. Such deepening of relationships bring an increased awareness between businesses in both countries and facilitate the exchange of information between the countries (DFAT, 2005; Wiedersheim-Paul & Welch, 1975).

Measure 3: The number of bilateral and regional trade agreements involving both Home and Away.

Measure 4: The value of government aid programs between Home and Away.

Measure 5: The number of official government trade offices from each country in the other.

Proposition 3, Historic Ties: The closer the historic ties between two countries the closer will be the psychic distance. Historical ties between countries and their people will engender more detailed knowledge of the countries concerned and higher levels of trade and investment than otherwise (Ghemawat, 2001). These ties might be the result of past colonial relationships or joint participation in wars as allies. For example, France has a continuing special relationship with former French colonies in Africa which leads to special trade access and exchanges of a commercial, diplomatic and cultural nature (Witter, 2004).

Measure 6: Was there a direct colonial relationship between Home and Away (in either direction)?

Measure 7: The relationship between Home and Away in the first and second world wars.

Proposition 4, Geographic Ties: The shorter the geographic distance between countries the shorter will be the corresponding country psychic distance. Geography has long been thought to have a favourable effect on commercial exchange between countries (Beckerman, 1956). Such a proposition is supported by the fact that for those products which are costly to transport relative to price, closer destinations provide a clear cost advantage over longer distances. Further, close proximity can be expected to encourage transfer of information (Ghemawat, 2001). But like

many such factors there is considerable doubt whether geographic distance alone is a sufficiently good predictor of psychic distance and therefore of international market selection decisions.

Measure 8: The direct distance between the closest two major port cities in Home and Away (Major city being the capital or city with a population of more than 1 million).

Proposition 5, Social Ties: There is sufficient evidence to support the contention that community differences, especially business differences, will also have an impact on the flow of knowledge and therefore the psychic distance between countries (Davidson, 1983). Thus while “differences” are not a sufficiently accurate surrogate for psychic distance they are nevertheless one important facet of psychic distance analysis. Such differences need to be assessed in a far more comprehensive fashion than Hofstede (1980) type cultural characteristics and would be improved with sporting and language preferences (Eichengreen & Irwin, 1998; Pressey & Selassie, 2002; Wiedersheim-Paul & Welch, 1975).

Measure 9: The cultural distance index developed by Fletcher and Bohn (1998)

Measure 10: The number of sports played regularly between Home and Away at national team level.

Measure 11: Similarity of national language, business language or alphabet.

Proposition 6, Information Availability: The more information there is available the more easily firm managers can learn about new country markets (Uktradeinfo, 2005). For a number of reasons there is available to the community in a country differing volumes of secondary information about other countries. One of these reasons would be the size and importance of nations in the world. Another would be regional importance. Another would be the exchange of people permanently or temporarily between the countries (Wiedersheim-Paul & Welch, 1975).

Measure 12: The number of publications appearing under the country heading in a major Home university library.

Measure 13: The total number of permanent immigrants and visitors from Home and Away living in the other country plus the number of annual temporary visitors from each to the other.

Proposition 7, Level of Development: The higher the level of development of a country the closer its psychic distance to all other countries will be, irrespective of the state of play at home. Countries which are more developed are more open and have much more readily available sources of commercial intelligence (World Bank, 2004). Business is easier to conduct in these countries and market conditions are easier to understand. They are also less likely to be subject to hidden costs such as corruption and a lack of corruption can be expected to enhance the ready availability of accurate information (Fukuyama, 2005; Ghemawat, 2001).

Measure 14: The United Nations Human Development Index

Measure 15: Transparency International corruption index.

Table 2: National psychic distance indicators and measures.

PRIMARY INDICATORS		MEASURES
Commercial ties	1	Two way trade
	2	Stock of foreign investment
Political ties	3	Trade agreements
	4	Value of aid programs
	5	Trade representation offices
Historic ties	6	Colonial relationship
	7	Shared wars
Geographic ties	8	Geographic proximity
Social ties	9	Cultural similarities
	10	Sport preferences
	11	Language similarities
Information ties	12	Secondary information availability
	13	Immigration numbers
Development	14	Level of development of the foreign country
	15	Level of corruption of the foreign country

Constructing an index

Using the elements described in the propositions above, the author has constructed an index measuring psychic distance between Australia and twenty five other selected countries. The index construction process is based loosely on the Globalization Index developed by A.T.Kearney and Foreign Policy journal (Anonymous, 2003). It can be used to calculate psychic distance between any combination of countries.

To provide an example of the workings of the proposed index, the index value and rankings for the psychic distance between Australia and twenty five sample countries were calculated and are set out in Table 3. To explain the calculations, each of the 15 elements of the index is measured in an objective manner for each country in accordance with its description above from publicly available data. Absolute numbers at the extremes of the country values are then allocated 1 and 0; 1 for the number indicating least psychic distance and 0 indicating greatest psychic distance. Intermediate numbers are assigned relative values between 0 and 1 in accordance with their absolute value (this process is known as panel normalisation of the data). The normalising formula for values of each index element is:

$$\text{Normalised value} = (\text{actual value} - \text{lowest value}) / (\text{highest value} - \text{lowest value})$$

Summation of the individual psychic distance elements for each country leads to an index number on an interval scale as shown in Table 3. The larger the index number the shorter the psychic distance between Australia and the country concerned. The closest index value that a country can have with respect to another is 15 (the total number of index elements) and the furthest is 0. Note that each index element is accorded equal weight in the absence of evidence pointing to a more appropriate weight.

Table 3: The Psychic Distance Index between Australia and 25 Selected Other Countries

	Canada	Chile	China	Fiji	Germany	HK	India	Indonesia	Italy	Japan	Kenya	Kuwait
1.Trade flows	0.09660	0.00822	0.45571	0.02538	0.22783	0.19746	0.07698	0.19910	0.13916	0.97128	0.00000	0.01648
2.FDI	0.04951	0.00140	0.01265	0.00152	0.04319	0.14363	0.00467	0.01414	0.01579	0.22539	0.00000	0.00000
3.Trade agreements	0.50000	0.50000	0.50000	0.00000	0.00000	0.50000	0.00000	0.50000	0.00000	0.50000	0.00000	0.00000
4.Aid programs	0.00000	0.00000	0.13017	0.05762	0.00000	0.00000	0.03949	0.36961	0.00000	0.00000	0.00000	0.00000
5.Trade offices	0.46667	0.53333	1.06667	0.40000	0.66667	0.00000	0.80000	0.73333	0.73333	1.00000	0.20000	0.13333
6.Colonial ties	0.50000	0.00000	0.00000	0.50000	0.00000	0.50000	0.50000	0.00000	0.00000	0.00000	0.50000	0.50000
7.Shared wars	1.00000	0.50000	0.75000	1.00000	0.00000	1.00000	1.00000	0.75000	0.50000	0.50000	1.00000	0.50000
8.Geography	0.21056	0.25381	0.82108	0.94327	0.05302	0.82108	0.58107	0.94601	0.48196	0.59132	0.48543	0.37075
9.Culture	0.98282	0.29210	0.00000	0.50000	0.94502	0.29897	0.67010	0.37457	0.92784	0.48110	0.58419	0.53608
10.Sports	0.00000	0.25000	0.00000	0.25000	0.25000	0.75000	0.25000	0.25000	0.25000	0.50000	0.25000	0.00000
11.Language	1.00000	0.50000	0.00000	1.00000	0.50000	1.00000	1.00000	0.50000	0.50000	0.00000	0.75000	0.75000
12.Information	0.01853	0.01440	0.02674	0.02662	0.29691	0.04012	0.27575	0.13933	0.24281	0.34742	0.01581	0.00452
13.Immigration	0.12944	0.02343	0.18841	0.07948	0.14325	0.23925	0.08582	0.19503	0.17326	0.34519	0.01040	0.00000
14.Development	0.96503	0.72028	0.29371	0.45455	0.89510	0.83916	0.13287	0.23776	0.87413	0.95804	0.00000	0.69930
15.Corruption	0.89474	0.72368	0.19737	0.50000	0.76316	0.80263	0.11842	0.00000	0.44737	0.67105	0.00000	0.44737
Psychic Index	6.81389	4.32066	4.44249	5.73842	4.78415	7.13230	5.53517	5.20888	5.28564	7.09080	3.79584	3.95784
Psychic distance rank	7	19	18	9	17	5	12	14	13	6	23	22

	Malaysia	NZ	P'pines	PNG	S'pore	Sth Africa	Sth Korea	Sweden	Taiwan	Thailand	UAE	UK	USA
1.Trade flows	0.17931	0.36226	0.04880	0.05666	0.29928	0.05922	0.35429	0.04921	0.19036	0.13441	0.03798	0.39377	1.00000
2.FDI	0.01853	0.23710	0.00838	0.00778	0.11728	0.00832	0.01480	0.00720	0.00521	0.00283	0.00033	0.72431	1.00000
3.Trade agreements	0.50000	1.00000	0.50000	0.50000	0.50000	0.00000	0.50000	0.00000	0.50000	0.50000	0.00000	0.00000	0.50000
4.Aid programs	0.00000	0.00000	0.14279	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.02433	0.00000	0.00000	0.00000
5.Trade offices	0.40000	0.33333	0.66667	0.26667	0.20000	0.26667	0.26667	0.66667	0.20000	0.53333	0.20000	0.73333	1.00000
6.Colonial ties	0.50000	0.50000	0.00000	1.00000	0.50000	0.50000	0.00000	0.00000	0.00000	0.00000	0.50000	1.00000	0.50000
7.Shared wars	1.00000	1.00000	1.00000	0.75000	1.00000	1.00000	0.50000	0.50000	0.75000	0.50000	0.50000	1.00000	1.00000
8.Geography	0.83165	0.99508	0.69946	1.00000	0.85385	0.53377	0.56331	0.08321	0.62408	0.73820	0.43927	0.00000	0.23509
9.Culture	0.19244	0.97938	0.46392	0.50000	0.34021	0.93471	0.30584	0.70103	0.00000	0.43643	0.68385	0.98282	1.00000
10.Sports	0.00000	0.75000	0.00000	0.25000	0.25000	0.50000	0.00000	0.25000	0.00000	0.00000	0.00000	1.00000	0.25000
11.Language	0.75000	1.00000	1.00000	1.00000	1.00000	1.00000	0.00000	0.50000	0.75000	0.00000	0.75000	1.00000	1.00000
12.Information	0.06829	0.23741	0.05081	0.08923	0.03717	0.07641	0.05292	0.04302	0.03081	0.04144	0.00000	1.00000	0.32006
13.Immigration	0.15568	0.73037	0.10692	0.05339	0.32396	0.09374	0.06556	0.03434	0.09498	0.16725	0.02199	1.00000	0.38882
14.Development	0.61538	0.88112	0.42657	0.09790	0.82517	0.24476	0.81119	1.00000	0.61539	0.50350	0.68531	0.93007	0.97203
15.Corruption	0.43421	1.00000	0.07895	0.02632	0.98684	0.32895	0.31579	0.97368	0.50000	0.18421	0.43421	0.89474	0.73684
Psychic index	5.64549	10.00606	5.19327	6.59794	7.23377	5.54653	3.75037	4.80835	4.26083	3.76592	4.25294	10.65904	9.90284
Psychic rank	10	2	15	8	4	11	25	16	20	24	21	1	3

TESTING THE INDEX

In order to determine whether the propositions set out above and incorporated into the psychic distance index are supported empirically, the author has compared statistics on the number of Australian exporters selling into each of the twenty five sample countries included in Table 3. If Australian exporters tend to first select markets which are psychically close, there will also be a tendency for more Australian exporters in total to sell to psychically close markets than distant ones. In fact, if there is a meaningful psychic distance effect, there should be a clear correlation between psychic distance and number of exporters for all the countries included in this study. This in fact turns out to be the case.

In Table 4 the number of Australian exporters to each sample country in 2002/3 is noted and a ranking allocated on the basis of these exporter numbers (from largest to smallest). Also shown are the psychic distance index value and rankings for each country as calculated in Table 3.

Table 4: Psychic distance and Australian exporters

COUNTRY	NUMBER OF EXPORTERS	EXPORTERS RANK	PSYCHIC DISTANCE INDEX	PSYCHIC DISTANCE RANK
Canada	2027	16	6.81389	7
Chile	341	23	4.32066	19
China	3101	9	4.44249	18
Fiji	3002	10	5.73842	9
Germany	2486	13	4.78415	17
Hong Kong	4290	5	7.13230	5
India	1506	19	5.53517	12
Indonesia	2825	11	5.20888	14
Italy	1297	21	5.28564	13
Japan	3955	6	7.09080	6
Kenya	160	25	3.79584	23
Kuwait	340	24	3.95784	22
Malaysia	3752	7	5.64549	10
New Zealand	13726	1	10.00606	2
Philippines	1629	18	5.19327	15
PNG	3212	8	6.59794	8
Singapore	6328	3	7.23377	4
Sth Africa	1948	17	5.54653	11
Sth Korea	2436	14	3.75037	25
Sweden	533	22	4.80835	16
Taiwan	2585	12	4.26083	20
Thailand	2302	15	3.76592	24
UAE	1467	20	4.25294	21
UK	5052	4	10.65904	1
USA	7929	2	9.90284	3

Source: Austrade and the author's calculations.

It can be seen from Table 4 that those countries having the closest psychic distance to Australia also tend to have the largest number of Australian exporters selling to their markets. In fact, the correlation between the number of Australian exporters to a country and its psychic distance index value from Australia is 0.79092 for the sample countries. The correlation between the rank of the number of Australian exporters to a country and the rank of its psychic index value is 0.73308. The author also calculated the effect of

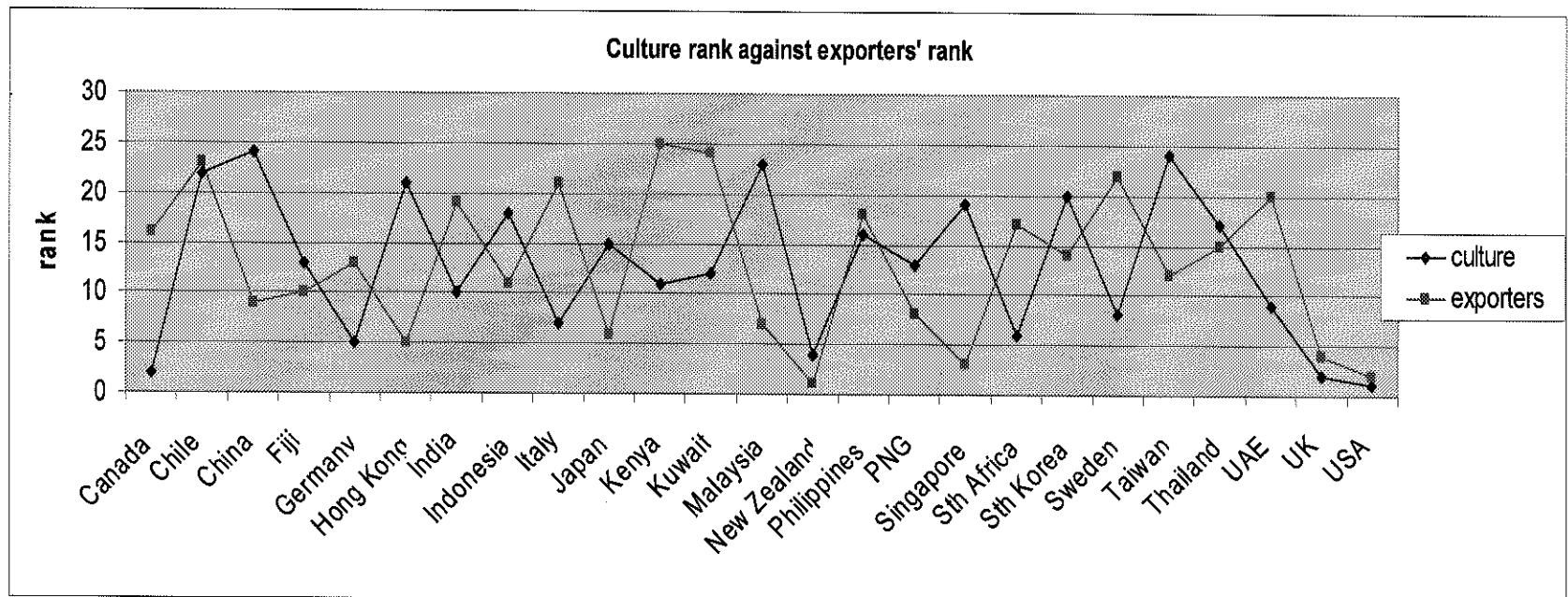
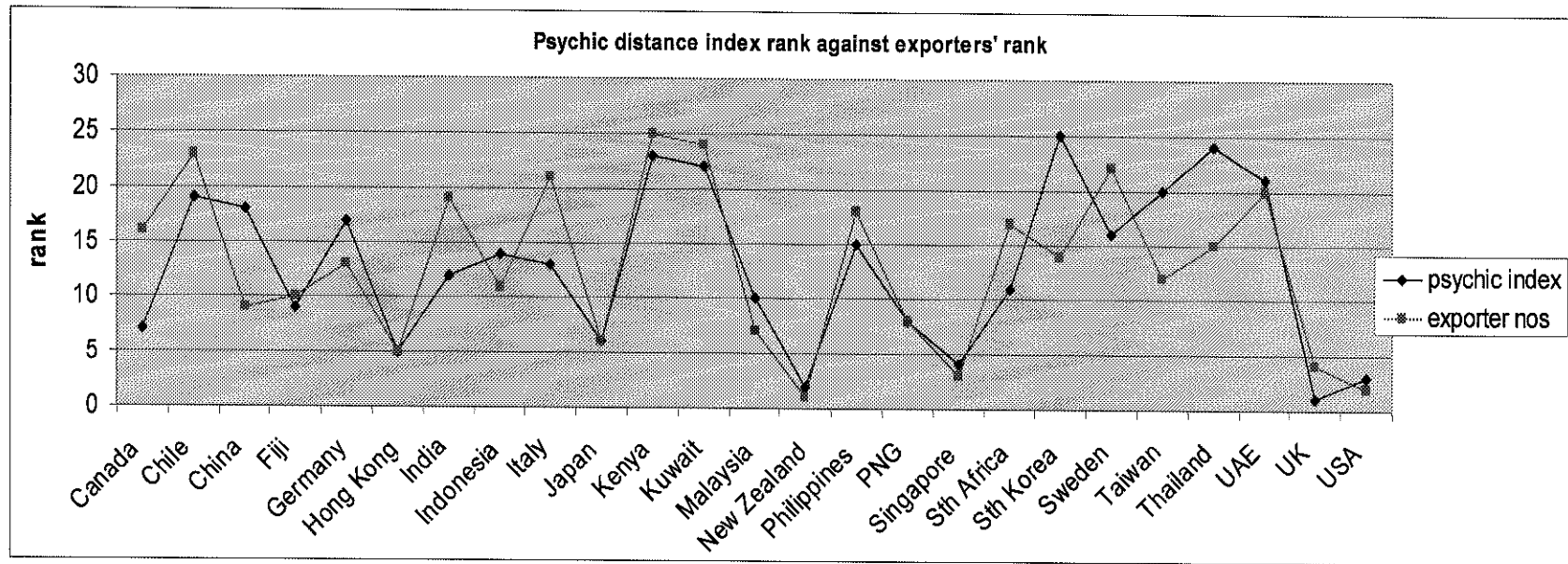
cultural differences on exporter numbers. The correlation between the number of exporters to a country and the value of its culture element in the psychic index, as shown in Table 3, is -0.03. These results are set out in Table 5. Clearly there is a much closer relationship between the psychic distance index and exporters' international market selection outcomes than between culture differences and market selection.

Table 5: Correlation matrix

	Exporters' value	Exporters' rank	Cultural difference value
Psychic distance index value	0.79092		-0.03
Psychic distance index rank		0.73308	

Figure 1 below plots the ranking of exporters against the author's psychic distance index and also exporter numbers against the culture element of the index. The correlation differences are apparent.

Figure 1: Plotting Australian exporter numbers against the psychic distance index and culture



CONCLUSION

Research supports the view that managers rely on developing knowledge about country markets through information flows. These information assets, in respect of initial foreign country markets, importantly include the pre-existing knowledge of managers. Also important in this regard is the ease with which they can gain additional knowledge. This information availability is at the heart of the original Johanson and Wiedersheim-Paul (1975) psychic distance definition based on ease of information flows. But there has been an important departure from this original definition in the most common forms of psychic distance interpretation in the literature, namely, perceived differences. The extrapolation of psychic distance from “factors impeding the flow of information” to “country differences” is unsupported by other than a recognition that such differences should affect business relationships. The direct definitional relationship between psychic distance and ease of information flows has been corrupted to a direct one-to-one relationship between psychic distance and perceived differences between countries. Whilst it is accepted that differences may affect country market understanding, so should the range of other important factors listed in Table 2. Many factors can be expected to play an important part in knowledge development and as many as possible should be taken into account in any attempt to operationalise psychic distance. Measuring a cognitive phenomenon (such as psychic distance) must be improved through measuring more rather than less of its elements. The psychic index developed and tested in this paper provides a much more comprehensive means of operationalising psychic distance, as originally defined, than currently exists in the literature. In essence, more emphasis has been placed on the ease with which firm managers can develop knowledge of country markets rather than a

restricted view of perceptions of differences between countries. In other words, managers' familiarity, existing or potential, with markets is the key element. This ease of familiarity, in turn, depends on a number of different aspects of the relationship between the countries concerned.

Firm conditions

In addition to national characteristics or conditions that are most likely to be important to psychic distance, the particular characteristics of the managers of a firm might also be important. This is because it is the managers not nations that perceive psychic distance (Petersen & Pedersen, 1996). Managers may have lived in very foreign countries for extended periods and thus be "comfortable" with the level of knowledge they have of those particular markets. This level of pre-existing familiarity may make those countries much closer to those particular firms than any national average would indicate.

Notwithstanding this important point, for the purposes of developing a psychic distance measure and empirically testing it, a national level concept can still be usefully employed. All firms have idiosyncrasies, but national level circumstances and relationships still have an effect (Wiedersheim-Paul & Welch, 1975). This paper established a psychic distance index measure for the "average" or norm in respect of Australian firm psychic distance perceptions.

Limitations and issues for further research

It should be noted that there does exist some disagreement as to the knowledge/psychic distance/market selection connection. Andersen (1993) argues that the stages model of internationalisation built around psychic distance is simplistic, it does not adequately

explain how the process occurs nor does it allow for prediction between the stages. Reid (1984b) is of the view that psychic distance is much too deterministic and firms respond in their own idiosyncratic ways to the challenges of internationalisation. Bell's research (1995) indicates modern technology is making a difference to small firms' internationalisation patterns and psychic distance is no longer important. In addition, research on psychic distance is largely American or European (O'Farrell & Wood, 1994) and the extent of its relevance to businesses in other countries which have different geographical and cultural imperatives, is open to question. However, overall, psychic distance remains a widely cited and well supported influence on international market selection (Dow, 2000; Petersen & Pedersen, 1996; Welch & Luostarinen, 1988).

This paper claims to have presented a more comprehensive, and therefore better, means of operationalising psychic distance. It is an improved way of understanding and using the concept in an international business context. However, it is likely that each element of the index as presented will have a different impact on knowledge flows. For example, FDI stocks between countries might well encourage information flows more than shared sporting interests. Each of the elements of the psychic distance index perhaps should be weighted so the complete model provides a more accurate predictor of psychic distance for a firm/country combination. Such a weighting could be the objective of more detailed research.

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